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## III. REMARKS

Claims 1-20 are pending in this application. By this amendment, claims 1, 8, 12 and 17 have been amended. These amendments are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. 1.116(b) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal. Accordingly, Applicants respectfully request entry of this Amendment.

In the Office Action, claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 3, 4 and 15 of U.S. Patent Application No. 10/039,725, hereafter "725 Application" in view of Tenev *et al.* (U.S. Patent No. 6,654,761), hereafter "Tenev." Claims 1-20 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Tenev.

### A. REJECTION OF CLAIMS 1-20 UNDER 35 U.S.C. §102(e)

With regard to the 35 U.S.C. §102(e) rejection over Tenev, Applicants assert that Tenev does not teach each and every feature of the claimed invention. First, with respect to independent claim 1, Tenev fails to teach or suggest a binding system for binding a tree observer with a tree, for binding node patterns to node observers to generate at least one node pairing, and for binding

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the tree observer to at least one node pattern-node observer pairing. The passage of Tenev discloses "...an extra data structure for mapping from a pair of node IDs to a link ID, implemented as a standard heap; this extra data structure allows lookup and insertion of a link ID in time that is logarithmic in the number of links." Col. 8, lines 8-12. However, the extra data structure of Tenev simply maps two things, namely, from a pair of node IDs to a link ID and does not bind a tree observer with a tree, node patterns to node observers, and the tree observer to at least one node pattern-node observer pairing. Furthermore, the miscellaneous data structures in Tenev simply allow logarithmic access to a particular node and do not include logic for more efficiently walking the data. In contrast, the current invention includes "...a binding system for binding a tree observer with a tree, for binding node patterns to node observers to generate at least one node pairing, and for binding the tree observer to at least one node pattern-node observer pairing." (Claim 1.) As such, the binding system as provided in the current invention does not simply map a pair of node IDs to a link ID as does the extra data structure in Tenev, but instead binds a tree observer with a tree, node patterns to node observers and the tree observer to at least one node pattern-node observer pairing. The logic, patterns, data and other information in these graph observers with node pattern/node observer pairings allow the present invention to more efficiently walk a pre-existing data graph. Additionally, the sub-node patterns as included in the present invention further enhance the graph walking efficiency of the present invention. Thus, the binding of graph observers with node pattern/node observer pairings as found in the present invention is not equivalent to the mapping of nodes in a predictive node-link set to elements in a heap as found in Tenev. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

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With further respect to independent claim 1, Applicants submit that the Office is incorrect in its argument that Tenev teaches a pattern testing system. The section of Tenev cited by the Office teaches “[t]he test in box 386 first tests the node's orient and map counts to determine whether the node was walked during the most recent orienting or mapping walk in box 306 in FIG. 7.” Col. 12, lines 57-60. To this extent, the testing of Tenev is to determine whether a node was previously walked and not to determine whether an attribute of a node matches that of a node pattern in a node pattern-node observer pair linked to a graph observer linked to the graph. Nowhere does Tenev teach matching an attribute of a node to that of a node pattern. In contrast, the current invention has “...a pattern testing system for determining if an attribute of an encountered node matches one of the node patterns.” (Claim 1.) As such, the pattern testing system of the claimed invention does not merely determine whether a node has previously been walked as does the test of Tenev, but instead determines if an attribute of an encountered node matches one of the node patterns. For the above reasons, the test of Tenev does not teach the pattern testing system of the claimed invention. Accordingly, Applicants request that the Office withdraw its rejection.

With still further respect to independent claim 1, Tenev fails to teach an event manager as alleged by the Office. Rather, the passage of Tenev cited by the Office teaches “...[t]he test in box 384 compares the last node ID with the saved top node ID, thus beginning an iterative loop that tests each node in list 232 until it finds one that can be removed.” Col. 12, lines 54-56. This test determines whether if the node that is currently being tested for removal has a node ID that is the same as that of the saved topmost node, in which case all of the nodes have been taken and there are no nodes that can be removed. Col. 13, lines 12-15. Thus the test in Tenev referred to by the Office simply indicates whether there are any more nodes to be examined and does not

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determine whether a node observer is bound to a matching node pattern. Furthermore, the passage of Tenev cited by the Office does not indicate that an event is generated. Nowhere does Tenev teach generating an encountered event when one of the node observers is bound to a matching node pattern. In contrast, the current invention includes "...an event manager for generating an encountered event when one of the node observers is bound to a matching node pattern." Claim 1. As such, the event manager as included in the claimed invention does not simply test for the end of a loop as does the test in Tenev, but rather if one of the node observers is bound to a matching node pattern. Furthermore, unlike Tenev, the event manager of the claimed invention generates an encountered event. For the above stated reasons, the test that returns a null ID after all nodes have been taken in Tenev is not equivalent to the event manager for generating an encountered event when one of the node observers is bound to a matching node pattern as included in the claimed invention. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

With yet still further respect to independent claim 1, Tenev does not teach the pruning system of the claimed invention. Instead, Tenev provides a way to remove a node from its predictive node-link set. (Col. 14, lines 35-39.) Nowhere, does Tenev teach that instead of removing the node, a tree observer with respect to sub-nodes is deactivated without deleting the sub-nodes. In contrast, the present invention includes "...a pruning system that can deactivate the tree observer with respect to sub-nodes of the encountered node without deleting the sub-nodes if a bound node observer determines that there is no interest in the sub-nodes." (Claim 1.) As such, the deactivating as included in the claimed invention does not simply remove nodes from the tree as in Tenev, but rather deactivates the tree observer to with respect to the sub-nodes of the graph without deleting the sub-nodes that are not part of a particular search pattern. Thus,

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the Tenev routine that removes a node is not equivalent to the pruning system as included in the claimed invention. Accordingly, Applicants respectfully request that the Office withdraw its rejection.

With respect to independent claims 8, 12 and 17, Applicants hereby incorporate the arguments enumerated above with respect to claim 1. Accordingly, Applicants request that the Office withdraw its rejections.

With regard to the Office's other arguments regarding dependent claims, Applicants herein incorporate the arguments presented above with respect to independent claims listed above. In addition, Applicants submit that all dependent claims are allowable based on their own distinct features. However, for brevity, Applicants will forego addressing each of these rejections individually, but reserve the right to do so should it become necessary. Accordingly, Applicants respectfully request that the Office withdraw its rejections.

## C. REJECTION OF CLAIMS 1, 4 and 8 UNDER OBVIOUSNESS TYPE DOUBLE PATENTING

Claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting over claims 3, 4 and 15 of Application No. 10/039725 in view of Tenev. Initially, Applicants assert, as argued above, that Tenev fails to teach an event manager as included in the claimed invention. Furthermore, the absence, as argued above, of a binding system in Tenev eliminates the motivation or suggestion to combine 725 Application with Tenev. Furthermore, Applicants will, if necessary, address this in a later paper with, e.g., a terminal disclaimer, upon an indication of allowable subject matter.

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## IV. CONCLUSION

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,



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Date: 7/21/05

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